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ORTHOTRICHUM HALLII SULLIV. & LESQ.

JOHN M. HOLZINGER.

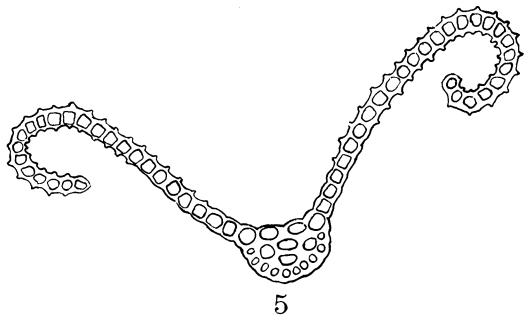
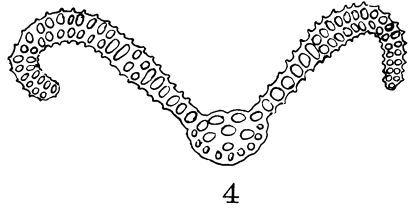
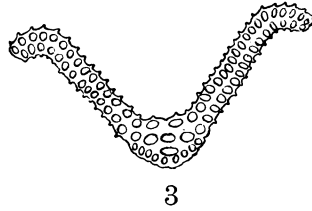
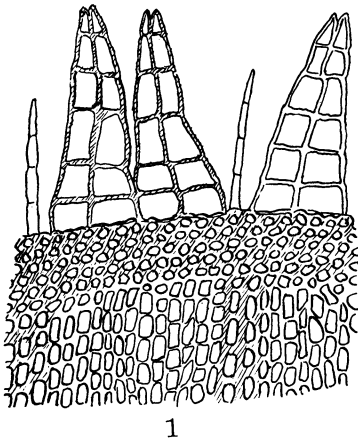
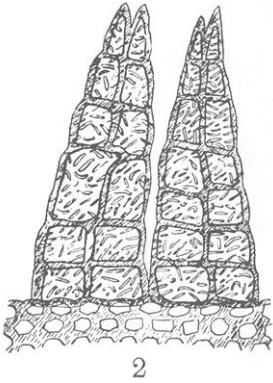
Among some Wyoming mosses recently received from Professor Aven Nelson for determination was an *Orthotrichum* which proved to be typical *O. Hallii*. The plant was sent *sub numero* 125, and was collected by Mr. Leslie Gooding "on bare dry rocks" in Platte Canyon, S. E. Wyoming. The habitat at the type station (Rocky Mountains, E. Hall) is given as "on trees." Yet there seemed little doubt, judging from both the description and the plate in *Sulliv. Icon. Musc. Suppl.*, t. 45, that this rock moss was the same species. So it was sent to Mrs. E. G. Britton for comparison with the type, if possible. She sent it to the Harvard Herbarium. From there it was learned that "the type is in poor condition, only old and incomplete capsules left, without calyptras, lids or peristome." Mrs. Britton's suggestion that "evidently Sullivant sent the best he had to his draughtsman" is but too true. Under the circumstances it is of interest to find new material in as perfect condition as is this from Wyoming.

Through the mediation of Mrs. Britton I have been able to examine closely a sterile stem from the Harvard type material. A comparison of the leaf sections leaves no doubt whatever regarding this Idaho plant being typical *Orthotrichum Hallii*. The strong unbranched papillæ, standing over the lumen of the cells; the two cell layers which begin below the leaf middle, where they usually do not extend across the lamina, reaching to the apex, where they are characteristic of the *entire* lamina: these are characters exactly identical in the Wyoming and in type material. I therefore have thought it proper to supplement Sullivant's illustrations of this beautiful species by the accompanying figures of leaf sections, and also of the upper part of the capsule, with part of the peristome. It will be observed by comparing Sullivant's figure 10, representing the peristome with a part of the mouth of the capsule, and the accompanying figure 1, that an attempt has been made in the latter to emphasize a second characteristic feature, namely the five or six rows of roundish isodiametric cells at the mouth of the capsule. These, as well as the three or four longitudinal rows of cells which alternate with the eight pairs of teeth, assume a darker yellow color than the rest of the capsule.

The material in hand shows a stage of the capsule not indicated in the description and figures of this species. Several freshly deoperculate capsules retained their bulging shape and their green color while dry, but were even at this stage marked by eight strongly projecting costæ or ridges. These are omitted in Sullivant's figure 6; and comparing this with his figure 8, one is led to expect that these costæ do not appear till the capsule assumes the form shown in figure 8. The fragile whitish peristome stands erect as given for the type, which causes the teeth to be easily broken; but occasionally a tooth persists till old age, and then turns back against the capsule.

It thus appears that this moss is well distinguished from all our North American *Orthotricha* by its fruit as well as leaf characters; and where the fruit is absent or immature, the leaves alone are still sufficient for determina-

In the same number of the Bulletin of the New York Botanical Gardens Mr. Williams gives a very interesting report on the other mosses which he collected in the Yukon region in 1898-99. In this account he describes several new species, including two new Bryums, a genus even more difficult than *Brachythecium*. In our next issue I hope to give a full review of this paper.



F. R. del.

PLATE V.—*ORTHOTRICHUM HALLII*.

Figs. 1 and 2. Peristome with part of capsule.

Figs. 3, 4 and 5. Cross sections of leaf, from near apex, middle and base, respectively.

tion. My thanks are due Mrs. Britton for her kind assistance which made it possible to make comparisons with type material. (See also Mrs. Britton's statements in Bull., Torr. Club., 1894, p. 156.)

NOTE. The writer discovers that among undetermined Colorado mosses collected by him in 1896, *O. Hallii* is abundantly represented. All of that material was, like that from Wyoming, collected on rocks. This adds to the doubt that *O. Hallii* was originally collected "on trees."

CURRENT LITERATURE.

Musci Norvegiæ Borealis. Pars prima. J. Hagen.

This appears in the Tromsø Museums Aarsetfer Trondhjem, 1899, in German, the descriptions in Latin; 112 pages. It is not merely a list, being replete with critical notes which show the experienced master in Bryology, ingenious, painstaking, plain spoken, exact. The descriptions uniformly go into the greatest detail. Quality is here secured with unstinted labor. Most of the descriptions and discussions are of direct value and interest to American students. The following species and varieties are described:

Gyroweisia tenuis compacta Hag., *Cynodontium polycarpum lævifolium* Hag., *Cynodontium polycarpum scabrius* Hag., *Oncophorus Wahlbergii elongatus* Hag., *Dicranum angustum fertile* Hag., *Seligeria tristichoides* Kindb., *Distichium Hagenii* Ryan, *Barbula convoluta filiformis* Hag., *Schistidium apocarpum irregulare* Hag., *Schistidium angustum* Hag., *Orthotrichum cupulatum luridum* Hag., *Orthotrichum microblephare* Schimp., *Orthotrichum Blyttii* Schimp., *Orthotrichum Groenlandicum* Berggr., *Orthotrichum mitigatum* Hag., *Encalypta mutica* Hag., *Webera cruda alpina* Hag.

Finally it is to be noted that the discussions under *Orthotrichum* and *Webera* are especially valuable.

Musci Norvegiæ Borealis. Fasciculus secundus. J. Hagen. (—Pars secunda.), pp. 113–240.

This was issued in 1901 and came into the hands of the writer of this note Feb. 24th, 1902. Considering the large number of new species described it seems very desirable to determine and record the exact date of its issue.

This paper is occupied almost exclusively with the genus *Bryum* proper, of which the author enumerates 108 species and varieties, 26 of them new to Bryology. When we consider that in the first part of this series the author enumerates 16 species and varieties of *Webera*, we have nearly 150 species of *Bryum* in the wider sense, all belonging to northern Norway, a comparatively small area of the Scandinavian peninsula. Truly this shows a wonderful wealth of Brya!

Dr. Hagen proposes some changes in the treatment of the genus *Bryum* and his discussion of this matter deserves treatment in a separate note; here only the salient points of excellence in the author's treatment are mentioned. With the great majority of species are found critical notes discussing their value and affinities. The author's generous communication to his fellow workers of his method of treating and examining spores, of observing leaves and areolation, and his estimate of the relative merits of